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(54) **CONTROL OF PHOTORECEPTOR BELT DETENSIONING CYCLES USING EXTENDED SLOWER BELT ROTATION**

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G03G 15/16 (2006.01)

(52) **U.S. Cl.**
CPC ***G03G 15/754*** (2013.01); ***G03G 15/5008*** (2013.01); *G03G 15/1615* (2013.01); *G03G 2215/00139* (2013.01)
USPC **399/165**; 399/43; 399/85

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USPC 399/43, 85, 162, 165
See application file for complete search history.

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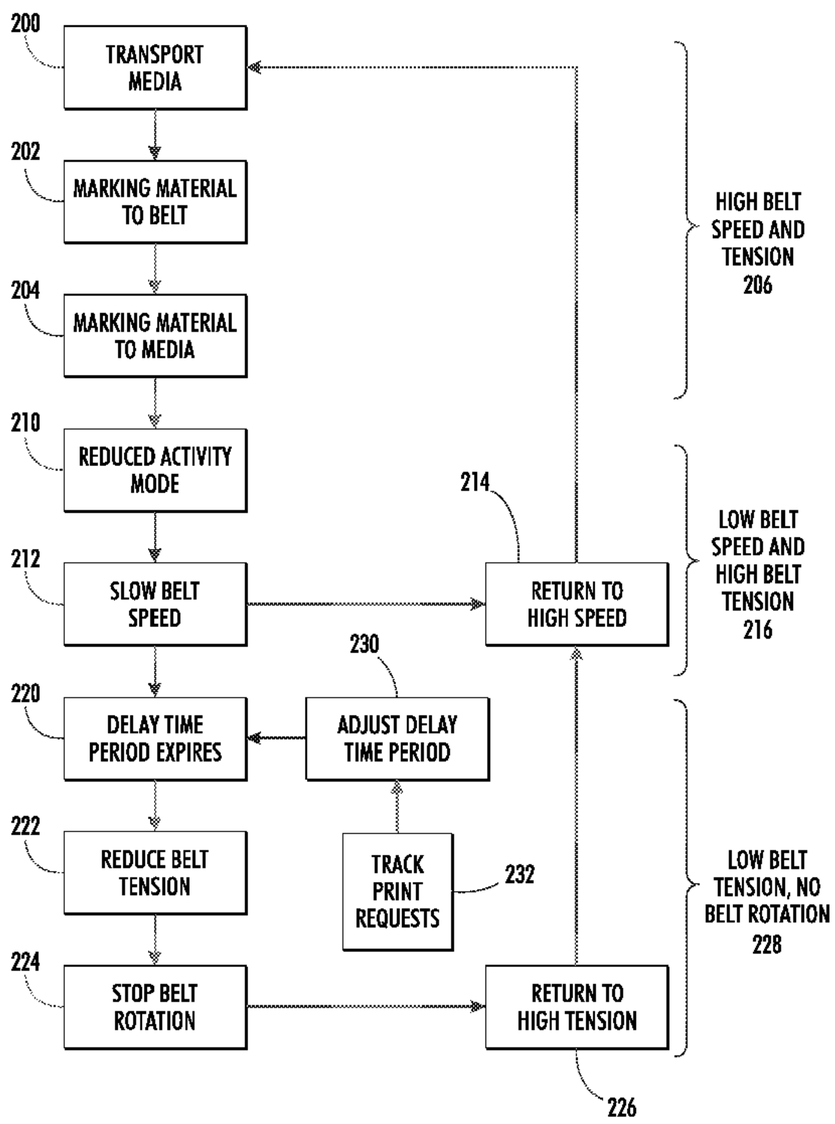
(57) **ABSTRACT**

A processor places a printer apparatus in a reduced activity mode after printing requests have not been received for an "inactivity" time period. A belt support device rotates a photoreceptor belt at a reduced speed when the printer apparatus enters the reduced activity mode and for a "delay" time period after the printer apparatus enters the reduced activity mode. The belt support device returns the rotational speed of the photoreceptor belt to the original speed if a new printing request is received during the delay time period. However, the belt support device stops rotation of the photoreceptor belt and reduces the belt tension if the delay time period expires without receiving a new printing request.

20 Claims, 4 Drawing Sheets



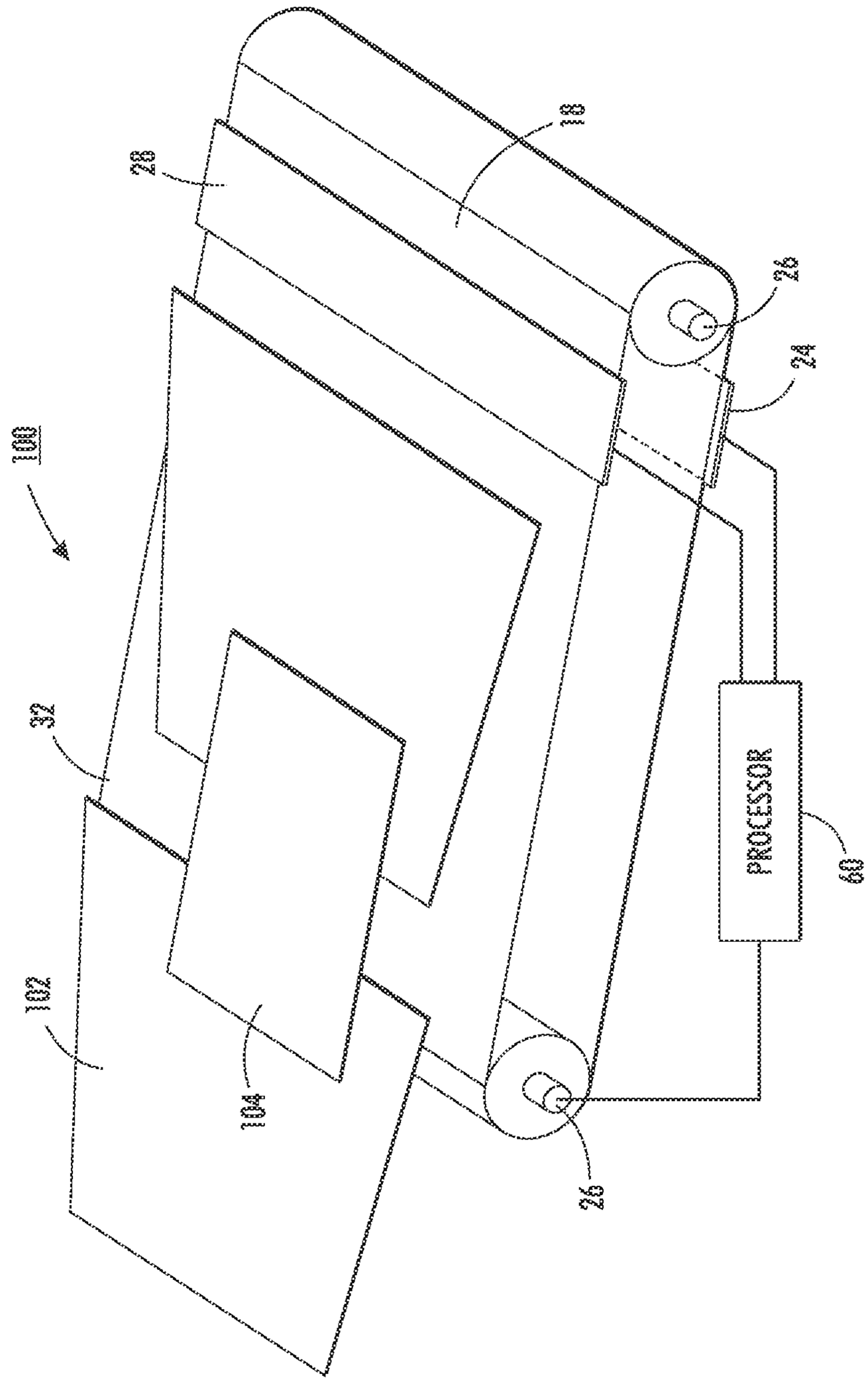


FIG. 1

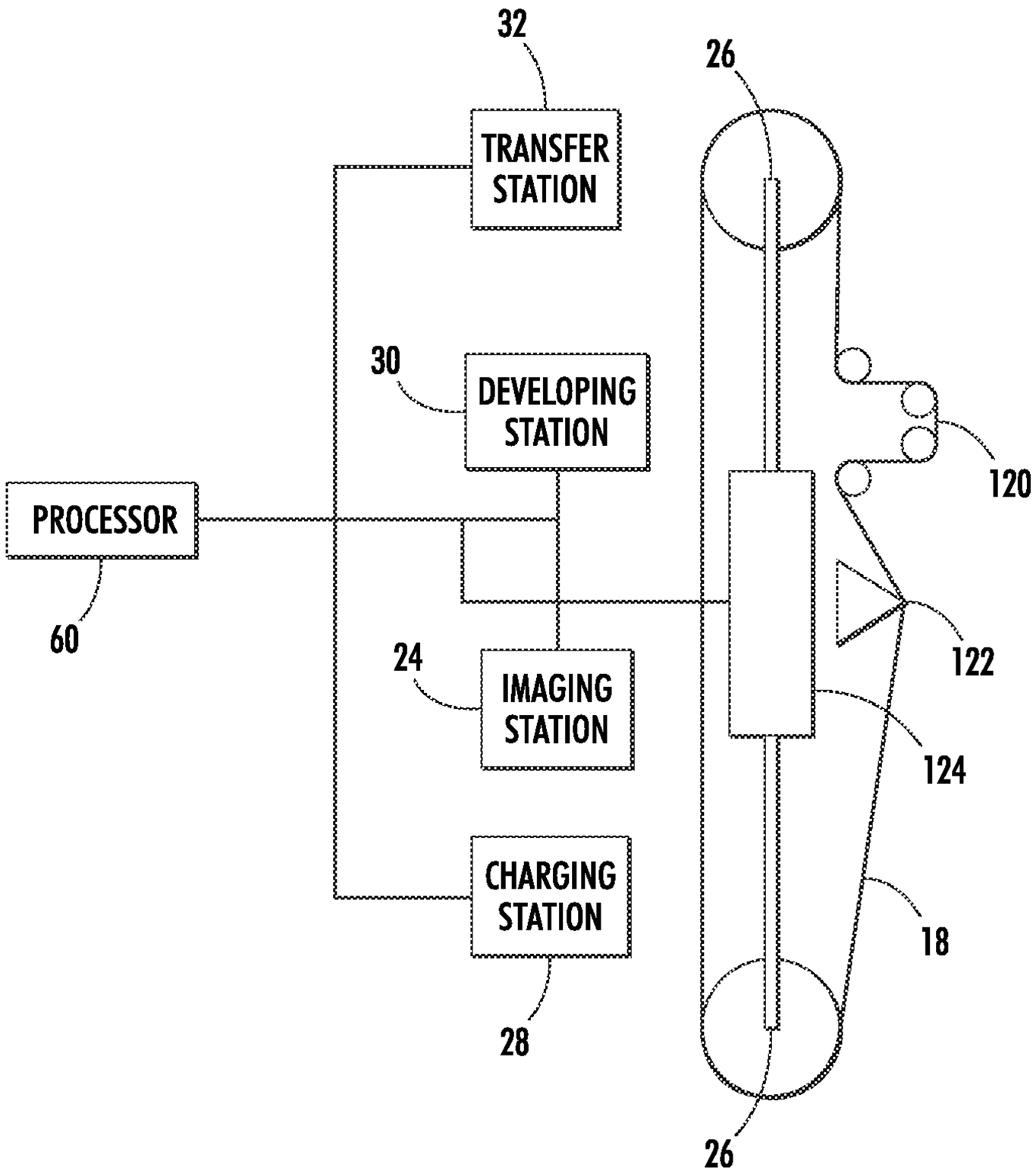

32
TRANSFER STATION
26
30
DEVELOPING STATION
120
PROCESSOR
60
122
24
IMAGING STATION
124
CHARGING STATION
18
28
26

FIG. 2

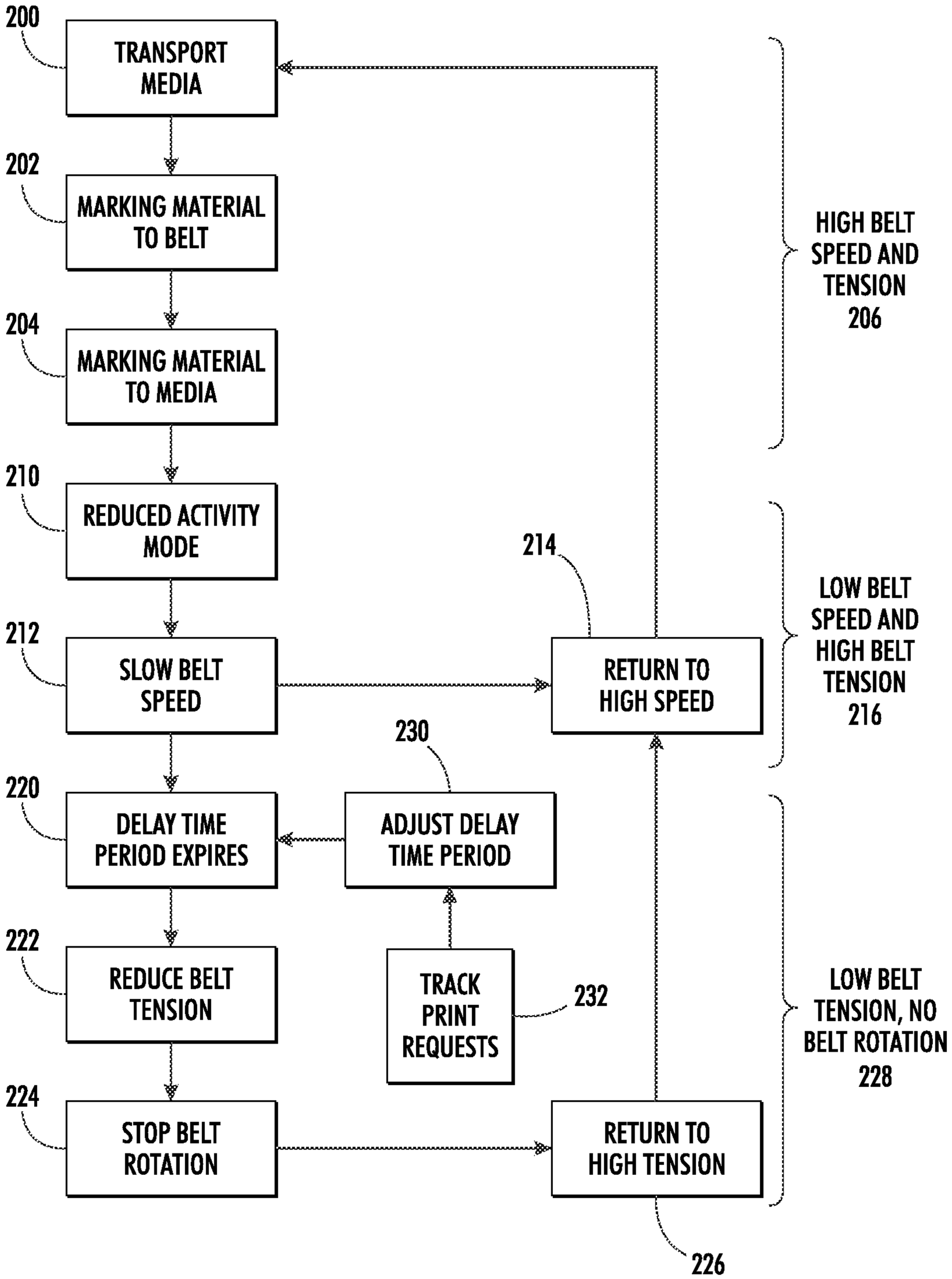

200
TRANSPORT MEDIA
202
MARKING MATERIAL TO BELT
204
MARKING MATERIAL TO MEDIA
210
REDUCED ACTIVITY MODE
212
SLOW BELT SPEED
214
RETURN TO HIGH SPEED
HIGH BELT SPEED AND TENSION 206
LOW BELT SPEED AND HIGH BELT TENSION 216
220
DELAY TIME PERIOD EXPIRES
230
ADJUST DELAY TIME PERIOD
222
REDUCE BELT TENSION
TRACK PRINT REQUESTS
232
LOW BELT TENSION, NO BELT ROTATION 228
224
STOP BELT ROTATION
RETURN TO HIGH TENSION
226

FIG. 3

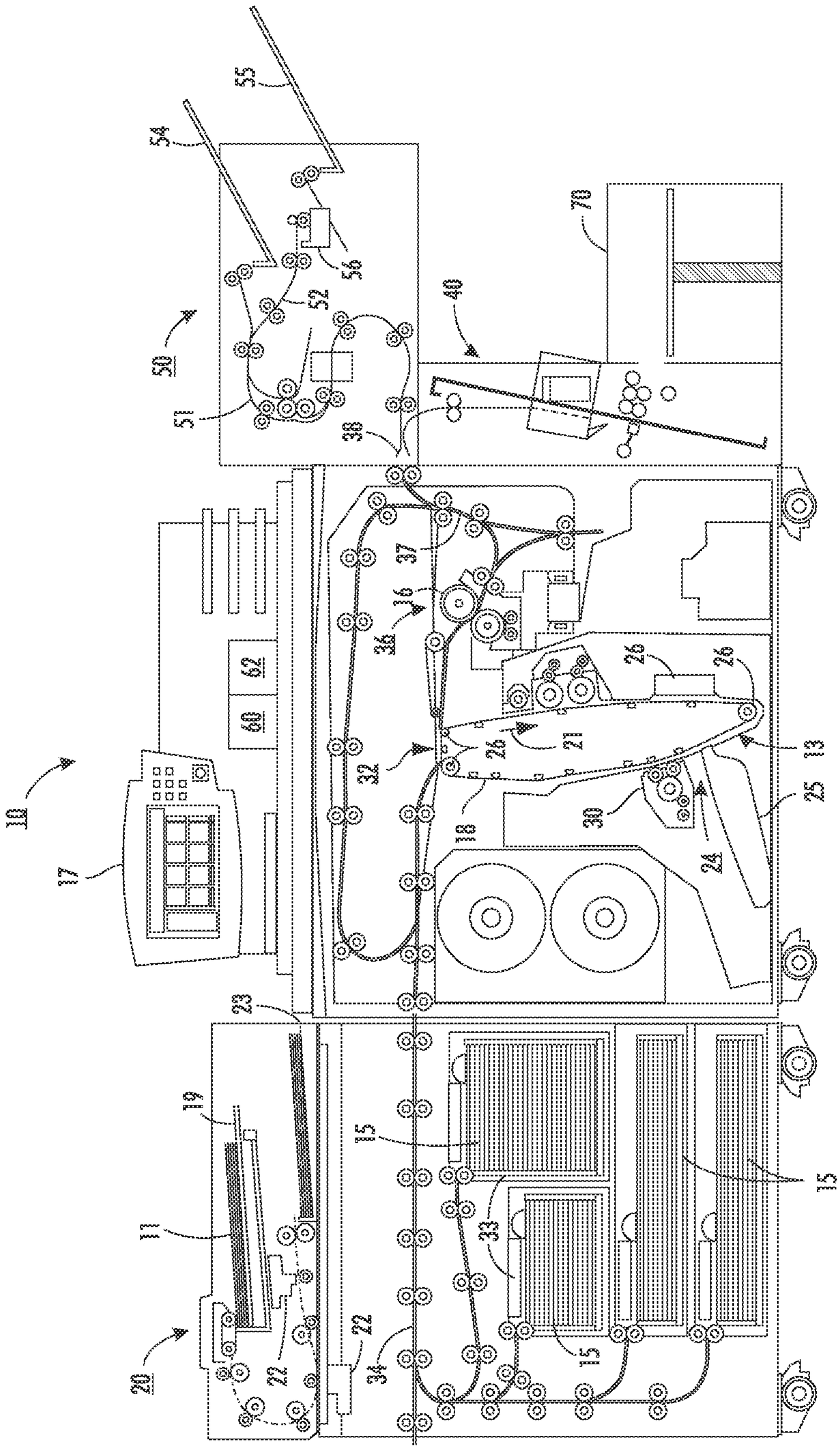

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FIG. 4

CONTROL OF PHOTORECEPTOR BELT DETENSIONING CYCLES USING EXTENDED SLOWER BELT ROTATION

BACKGROUND

Embodiments herein generally relate to printers and printing systems, and more particularly to extending the life of photoreceptor belts by controlling photoreceptor belt detensioning cycles using extended slower belt rotation.

Modern electrostatic printing devices use a photoreceptor belt as a platform to accept a patterned charge, collect toner in the pattern represented by the charge, and transfer the toner to a media material. The media can be, for example, a continuous roll or web of material, or can be cut sheets. The media can be any suitable material including paper, plastic, transparencies, etc.

The photoreceptor belt needs to be durable, yet cannot be excessively expensive. Therefore, a number of systems and processes are used to extend the life of photoreceptor belts.

SUMMARY

An exemplary printer apparatus herein comprises a processor, and a media path operatively connected to the processor. The media path transports print media within the printer apparatus. A dispensing apparatus is operatively connected to the processor, and the dispensing apparatus maintains a marking material, such as toner. A charging device is operatively connected to the processor, as is a belt, such as a photoreceptor belt. The photoreceptor belt is positioned adjacent the dispensing apparatus and the charging device. The charging device transfers a charge pattern to the photoreceptor belt, and the dispensing apparatus places the toner on the photoreceptor belt, based on the charge pattern. The photoreceptor belt then transfers the toner to the print media.

Further, a belt support device (comprising a frame, drive and idle rollers, actuators, etc.) is operatively connected to the processor, and the photoreceptor belt is mounted on the belt support device. The belt support device controls the rotational speed and the belt tension of the photoreceptor belt. The belt support device rotates the photoreceptor belt at a first speed and maintains the belt tension at a first tension when the photoreceptor belt is transferring the toner to the print media.

The processor places the printer apparatus in a reduced activity mode after printing requests have not been received for a previously set "inactivity" time period. The belt support device rotates the photoreceptor belt at a second speed, that is less than the first speed, when the printer apparatus enters the reduced activity mode and for a previously set "delay" time period after the printer apparatus enters the reduced activity mode. For example, the second speed can be less than 10% of the first speed. The belt support device returns the rotational speed of the photoreceptor belt to the first speed if a new printing request is received during the delay time period. However, the belt support device stops rotation of the photoreceptor belt and reduces the belt tension (to a second tension, less than the first tension) if the delay time period expires without receiving a new printing request. For example, the second tension can be less than 50% of the first tension. The belt support device returns the rotational speed of the photoreceptor belt to the first speed, and returns the belt tension to the first tension, when a new printing request is received after the delay time period has expired.

In additional embodiments, the processor can track the pattern of delay between successive print requests. The processor can then adjust the delay time period to reduce the frequency of changing the belt tension, based on the pattern of delay between successive print requests.

An exemplary method herein transports the print media within the printer apparatus using the media path within the printer apparatus, and places marking material on the belt within the printer apparatus using a dispensing apparatus within the printer apparatus. Again, the dispensing apparatus maintains the marking material. The method also transfers the marking material from the belt to the print media.

The method supports the belt using a belt support device within the printer apparatus, and controls the rotational speed of the belt and belt tension of the belt using the belt support device. The method rotates the belt at a first speed and maintains the belt tension at a first tension when the belt is transferring the marking material to the print media, using the belt support device.

This exemplary method places the printer apparatus in a reduced activity mode if new printing requests are not received for an inactivity time period, using a processor within the printer apparatus. Further, this method rotates the belt at a second speed, less than the first speed, when the printer apparatus enters the reduced activity mode and for a delay time period after the printer apparatus enters the reduced activity mode, using the belt support device. The method returns the rotational speed of the belt to the first speed if a new printing request is received during the delay time period, using the belt support device. The method can stop the rotation of the belt and reduce the belt tension to a second tension, less than the first tension, if the delay time period expires without receiving a new printing request, using the belt support device. Additionally, the method returns the rotational speed of the belt to the first speed and returns the belt tension to the first tension when a new printing request is received after the delay time period has expired, using the belt support device.

Further, these methods can track the pattern of delay between successive print requests, and adjust the delay time period to reduce a frequency of when the belt tension is changed based on the pattern of delay between successive print requests, using the processor.

These and other features are described in, or are apparent from, the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

Various exemplary embodiments of the systems and methods are described in detail below, with reference to the attached drawing figures, in which:

FIG. **1** is a perspective-view schematic diagram of a device according to embodiments herein;

FIG. **2** is a side-view schematic diagram of a device according to embodiments herein;

FIG. **3** is a flow diagram illustrating various method embodiments herein; and

FIG. **4** is a side-view schematic diagram of a device according to embodiments herein.

DETAILED DESCRIPTION

Image quality (IQ) defects are sometimes attributed the photoreceptor (PR) belt, such as the belt **18** shown in FIGS. **1** and **2**, being statically tensioned (stopped under tension) over a tight bending radius of structures such as a sharply pointed object **122** or one or more rolls **120** (FIG. **2**). Damage to the photoreceptor belt can occur each time the machine cycles down and the photoreceptor belt is stopped and allowed to remain under tension. The damage is increased especially

where the machine may be idle for extended periods of time. The area of the photoreceptor belt that is touching sharply angled items **120**, **122** can induce an image quality defect in the print the next time the machine cycles up for a print job.

One solution to the foregoing is to detension (reduce tension on) the belt after every print job. This may require the detensioning hardware to cycle repeatedly, which can excessively wear the belt tensioning equipment. Further, the belt itself can only be placed through a finite number of tensioning cycles (a cycle of tensioning and detensioning) before it become defective and needs to be replaced. Therefore, systems and methods herein place the photoreceptor belt into crawl mode for an extended delay time period instead of immediately detensioning when a printing machine becomes idle. Crawl mode causes the belt to slowly rotate for some period of time (e.g., 10-30 minutes) before stopping and detensioning the photoreceptor belt. Crawl mode prevents exercising the detensioning hardware more often than its original design and eliminates the need for a new design

An exemplary printer apparatus **100** herein comprises a processor **60**, and a media path **102** operatively connected to the processor **60**. The media path **102** transports print media **104** within the printer apparatus **100**. A dispensing apparatus **24**, such as an imaging station, is operatively connected to the processor **60**, and the dispensing apparatus **24** maintains a marking material, such as toner. A charging device **28** is operatively connected to the processor **60**, as is a belt, such as a photoreceptor belt **18**. The photoreceptor belt **18** is positioned adjacent the dispensing apparatus **24** and the charging device **28**. The charging device **28** transfers a charge pattern to the photoreceptor belt **18**, and the dispensing apparatus **24** transfers toner to the photoreceptor belt **18**, based on the charge pattern. The photoreceptor belt **18** then transfers the toner to the print media **104** at the transfer station **32**.

Further, a belt support device **124** (comprising a frame, drive and idle rollers **26**, actuators, etc.) is operatively connected to the processor **60**, and the photoreceptor belt **18** is mounted on the belt support device **124**. While a simplified frame and actuators connected to the rollers **26** is illustrated in FIG. **2**, those ordinarily skilled in the art would understand that many different types of tension adjustment systems can be utilized with the systems and methods herein. Therefore, many more or less frame members, more or less actuators, etc., can be included in the belt support device **124**. Additionally, the belt support device **124** is considered, in this example, to also control the rotational speed of the rollers **26**. While the arbitrarily named "belt support device" **124** controls these various functions in this example, those ordinarily skilled in the art would understand that these functions could be performed by many separate devices, or the control could be grouped under the functions of a different device, depending upon specific implementation and design of the specific printing device, and that the systems and methods defined by the claims are not limited to the examples shown in the drawings.

Therefore, the belt support device **124** controls the rotational speed and the belt tension of the photoreceptor belt **18**. The belt support device **124** rotates the photoreceptor belt **18** at a first (high) speed and maintains the belt tension at a first (high) tension when the photoreceptor belt **18** is transferring the toner to the print media **104**. Thus, when the printing device is operating in its normal high-power mode and is placing markings on the print media, the photoreceptor belt **18** rotates at its highest operational speed and highest operational tension.

The processor **60** places the printer apparatus **100** in a reduced activity mode after printing requests have not been received for a previously set "inactivity" time period. This is commonly referred to as "sleep" mode, which is a feature provided in many devices to reduce power consumption and wear on critical components. While in the reduced activity or sleep mode, many components are shut down and only a few components that allow the device to quickly resume operation are kept active. For example, one sleep mode operation can be to stop rotation of the photoreceptor belt and reduce tension. However, reducing tension every time the printing device enters sleep mode can unnecessarily increase the number of tensioning cycles that the photoreceptor belt experiences, leading to a shorter useful life.

With systems and methods herein, the photoreceptor belt **18** is not detensioned every time the printing device enters sleep mode in order to reduce the number of tensioning cycles. Further, in order to avoid problems that can occur when the photoreceptor belt **18** is stopped under tension discussed above, systems and methods herein continued to rotate the photoreceptor belt **18** even in sleep mode. However, in order to reduce wear on the rollers, belt, and motors (and to reduce power consumption) the speed of the belt rotation is substantially reduced. This allows the systems and methods herein to enjoy the benefits of the sleep mode (with reduced wear and reduced power consumption) yet avoids the problem of excessive tensioning cycles, and the problems associated with stopping a photoreceptor belt under tension.

Thus, the belt support device **124** rotates the photoreceptor belt **18** at a second (lower) speed, that is less than the first speed, when the printer apparatus **100** enters the reduced activity mode and for a previously set "delay" time period after the printer apparatus **100** enters the reduced activity mode. For example, the second speed can be less than 30%, less than 10%, less than 5% of the first speed.

The belt support device **124** returns the rotational speed of the photoreceptor belt **18** to the first speed if a new printing request is received during the delay time period. However, the belt support device **120** stops rotation of the photoreceptor belt **18** and reduces the belt tension (to a second tension, less than the first tension) if the delay time period expires without receiving a new printing request. For example, the second tension can be less than 70%, less than 50%, less than 25%, etc., of the first tension. The belt support device **120** returns the rotational speed of the photoreceptor belt **18** to the first speed, and returns the belt tension to the first tension, when a new printing request is received after the delay time period has expired.

In additional embodiments, the processor **60** can track the pattern of delay between successive print requests. The processor **60** can then adjust the delay time period to reduce the frequency of changing the belt tension, based on the pattern of delay between successive print requests.

Thus, the delay time period may initially extend the detentioning of photoreceptor belt **18** beyond the entry into the reduced activity mode by 20 minutes. However, if the tracking of the pattern of delay between successive print request shows that the mean or average time between successive printing requests for a specific printing machine is 30 minutes, the delay time can be extended from 20 minutes to 30 minutes for that specific printing machine. Similarly, the systems and methods herein can use more elaborate modeling of printing activity periods that may determine, for example, that once a specific printing device goes unused for 25 minutes, it usually goes unused for hours (which would allow the system to reset the delay time period to 25 minutes). Additionally, the delay time period can be customized for weekdays versus weekends, normal business operating hours versus nighttime, etc. The adjustment of the delay time period is

automated and dynamic, allowing the number of tensioning cycles to be minimized for each machine as the use of that machine changes over time.

FIG. **3** is flowchart illustrating an exemplary method herein. In item **200**, this method transports the print media within the printer apparatus using the media path within the printer apparatus. The method also places marking material on the belt within the printer apparatus using a dispensing apparatus within the printer apparatus in item **202**. Again, the dispensing apparatus maintains the marking material. The method also transfers the marking material from the belt to the print media in item **204**.

The method supports the belt using a belt support device within the printer apparatus, and controls the rotational speed of the belt and belt tension of the belt using the belt support device. The method rotates the belt at a first (high) speed and maintains the belt tension at a first (high) tension when the media is being transported, the marking media is being transported to the belt, and the belt is transferring the marking material to the print media in item **206**, using the belt support device.

This exemplary method places the printer apparatus in a reduced activity mode **210** if new printing requests are not received for an "inactivity time period", using a processor within the printer apparatus. Further, this method slows the belt speed **212** and rotates the belt to a second speed, less than the first speed, when the printer apparatus enters the reduced activity mode and for a "delay time period" after the printer apparatus enters the reduced activity mode, using the belt support device. The method returns the rotational speed of the belt to the first (higher) speed if a new printing request is received during the delay time period in item **214**, using the belt support device. Thus, the method rotates the belt at the lower speed, but maintains the belt tension at a first (higher) tension **216** from the time when the printer enters the reduced activity mode until the delay time period expires in item **220**.

When the delay time period expires (when the printer has been in the reduced activity mode for the delay time period) the method can reduce the belt tension to a second tension **222** and stop the rotation of the belt **224** and, less than the first tension, if the delay time period expires without receiving a new printing request, using the belt support device. Additionally, the method returns the belt tension to the first tension **226** and returns the rotational speed of the belt to the first speed **214** when a new printing request is received after the delay time period has expired, using the belt support device. Thus, after the delay time period expires, the belt tension is reduced and the belt is stopped, as shown by item **228**.

Further, these methods can track the pattern of delay between successive print requests in item **232**, and adjust the delay time period in item **230** to reduce the frequency of when the belt tension is changed based on the pattern of delay between successive print requests, using the processor.

Referring to the FIG. **4** a more detailed printing machine **10** that is similar to those shown in FIGS. **1** and **2** is illustrated that includes an automatic document feeder **20** (ADF) that can be used to scan (at a scanning station **22**) original documents **11** fed from a tray **19** to a tray **23**. The user may enter the desired printing and finishing instructions through the graphic user interface (GUI) or control panel **17**, or use a job ticket, an electronic print job description from a remote source, etc. The control panel **17** can include one or more processors **60**, power supplies, as well as storage devices **62** storing programs of instructions that are readable by the processors **60** for performing the various functions described herein. The storage devices **62** can comprise, for example, non-transitory storage mediums including magnetic devices, optical devices, capacitor-based devices, etc.

An electronic or optical image or an image of an original document or set of documents to be reproduced may be projected or scanned onto a charged surface **13** or a photoreceptor belt **18** to form an electrostatic latent image. The belt photoreceptor **18** here is mounted on a set of rollers **26**. At least one of the rollers is driven to move the photoreceptor in the direction indicated by arrow **21** past the various other known electrostatic processing stations including a charging station **28**, imaging station **24** (for a raster scan laser system **25**), developing station **30**, and transfer station **32**.

Thus, the latent image is developed with developing material to form a toner image corresponding to the latent image. More specifically, a sheet **15** is fed from a selected paper tray supply **33** to a sheet transport **34** for travel to the transfer station **32**. There, the toned image is electrostatically transferred to a final print media material **15**, to which it may be permanently fixed by a fusing device **16**. The sheet is stripped from the photoreceptor **18** and conveyed to a fusing station **36** having fusing device **16** where the toner image is fused to the sheet. A guide can be applied to the substrate **15** to lead it away from the fuser roll. After separating from the fuser roll, the substrate **15** is then transported by a sheet output transport **37** to output trays a multi-function finishing station **50**.

Printed sheets **15** from the printer **10** can be accepted at an entry port **38** and directed to multiple paths and output trays **54**, **55** for printed sheets, corresponding to different desired actions, such as stapling, hole-punching and C or Z-folding. The finisher **50** can also optionally include, for example, a modular booklet maker **40** although those ordinarily skilled in the art would understand that the finisher **50** could comprise any functional unit, and that the modular booklet maker **40** is merely shown as one example. The finished booklets are collected in a stacker **70**. It is to be understood that various rollers and other devices that contact and handle sheets within finisher module **50** are driven by various motors, solenoids and other electromechanical devices (not shown), under a control system, such as including the microprocessor **60** of the control panel **17** or elsewhere, in a manner generally familiar in the art.

Thus, the multi-functional finisher **50** has a top tray **54** and a main tray **55** and a folding and booklet making section **40** that adds stapled and unstapled booklet making, and single sheet C-fold and Z-fold capabilities. The top tray **54** is used as a purge destination, as well as, a destination for the simplest of jobs that require no finishing and no collated stacking. The main tray **55** can have, for example, a pair of pass-through sheet upside down staplers **56** and is used for most jobs that require stacking or stapling

As would be understood by those ordinarily skilled in the art, the printing device **10** shown in FIG. **4** is only one example and the embodiments herein are equally applicable to other types of printing devices that may include fewer components or more components. For example, while a limited number of printing engines and paper paths are illustrated in FIG. **4**, those ordinarily skilled in the art would understand that many more paper paths and additional printing engines could be included within any printing device used with embodiments herein.

In such a computerized (printing) device **10**, the processor **60** in the control panel **17** the processor **60** places the printer apparatus in a reduced activity mode after printing requests have not been received for a previously set "inactivity" time period. The processor **60** controls the belt support device to rotate the photoreceptor belt at a second speed, that is less than the first speed, when the printer apparatus enters the

reduced activity mode and for a previously set "delay" time period after the printer apparatus enters the reduced activity mode. The processor **60** controls the belt support device to return the rotational speed of the photoreceptor belt to the first speed if a new printing request is received during the delay time period.

However, the processor **60** controls the belt support device to stop rotation of the photoreceptor belt and reduces the belt tension (to a second tension, less than the first tension) if the delay time period expires without receiving a new printing request. The processor **60** controls the belt support device to return the rotational speed of the photoreceptor belt to the first speed, and return the belt tension to the first tension, when a new printing request is received after the delay time period has expired. The processor **60** can also track the pattern of delay between successive print requests and then adjust the delay time period to reduce the frequency of changing the belt tension, based on the pattern of delay between successive print requests.

Many computerized devices are discussed above. Computerized devices that include chip-based central processing units (CPU's), input/output devices (including graphic user interfaces (GUI), memories, comparators, processors, etc. are well-known and readily available devices produced by manufacturers such as Dell Computers, Round Rock Tex., USA and Apple Computer Co., Cupertino Calif., USA. Such computerized devices commonly include input/output devices, power supplies, processors, electronic storage memories, wiring, etc., the details of which are omitted herefrom to allow the reader to focus on the salient aspects of the embodiments described herein. Similarly, scanners and other similar peripheral equipment are available from Xerox Corporation, Norwalk, Conn., USA and the details of such devices are not discussed herein for purposes of brevity and reader focus.

The terms printer or printing device as used herein encompasses any apparatus, such as a digital copier, bookmaking machine, facsimile machine, multi-function machine, etc., which performs a print outputting function for any purpose. The details of printers, printing engines, etc., are well-known by those ordinarily skilled in the art and are discussed in, for example, U.S. Pat. No. 6,032,004, the complete disclosure of which is fully incorporated herein by reference. The embodiments herein can encompass embodiments that print in color, monochrome, or handle color or monochrome image data. All foregoing embodiments are specifically applicable to electrostatographic and/or xerographic machines and/or processes.

In addition, terms such as "right", "left", "vertical", "horizontal", "top", "bottom", "upper", "lower", "under", "below", "underlying", "over", "overlying", "parallel", "perpendicular", etc., used herein are understood to be relative locations as they are oriented and illustrated in the drawings (unless otherwise indicated). Terms such as "touching", "on", "in direct contact", "abutting", "directly adjacent to", etc., mean that at least one element physically contacts another element (without other elements separating the described elements). Further, the terms automated or automatically mean that once a process is started (by a machine or a user), one or more machines perform the process without further input from any user.

It will be appreciated that the above-disclosed and other features and functions, or alternatives thereof, may be desirably combined into many other different systems or applications. Various presently unforeseen or unanticipated alternatives, modifications, variations, or improvements therein may be subsequently made by those skilled in the art which are also intended to be encompassed by the following claims. Unless specifically defined in a specific claim itself, steps or components of the embodiments herein cannot be implied or imported from any above example as limitations to any particular order, number, position, size, shape, angle, color, or material.

What is claimed is:

1. A printer apparatus comprising:

a processor;

a media path operatively connected to said processor, said media path transporting print media within said printer apparatus;

a dispensing apparatus operatively connected to said processor, said dispensing apparatus maintaining marking material;

a belt operatively connected to said processor, said belt being positioned adjacent said dispensing apparatus, said dispensing apparatus placing said marking material on said belt, said belt transferring said marking material to said print media; and

a belt support device operatively connected to said processor,

said belt being mounted on said belt support device,

said belt support device controlling a rotational speed of said belt and a belt tension of said belt,

said belt support device rotating said belt at a first speed and maintaining said belt tension at a first tension when said belt is transferring said marking material to said print media,

said processor placing said printer apparatus in a reduced activity mode based on a lack of printing requests being received for an inactivity time period,

said belt support device rotating said belt at a second speed, less than said first speed, when said printer apparatus enters said reduced activity mode and for a delay time period after said printer apparatus enters said reduced activity mode,

said belt support device returning said rotational speed of said belt to said first speed based on a new printing request being received during said delay time period, and

said belt support device stopping rotation of said belt and reducing said belt tension to a second tension, less than said first tension, based on said delay time period expiring without receiving said new printing request.

2. The printer apparatus according to claim **1**, said processor tracking a pattern of delay between successive print requests, and

said processor adjusting said delay time period to reduce a frequency of changing said belt tension based on said pattern of delay between successive print requests.

3. The printer apparatus according to claim **1**, said belt support device returning said rotational speed of said belt to said first speed and returning said belt tension to said first tension based on said new printing request being received after said delay time period has expired.

4. The printer apparatus according to claim **1**, said second tension being less than 50% of said first tension.

5. The printer apparatus according to claim **1**, said second speed being less than 10% of said first speed.

6. A printer apparatus comprising:

a processor;

a media path operatively connected to said processor, said media path transporting print media within said printer apparatus;

a dispensing apparatus operatively connected to said processor, said dispensing apparatus maintaining toner;

a charging device operatively connected to said processor;

a photoreceptor belt operatively connected to said processor, said photoreceptor belt being positioned adjacent said dispensing apparatus and said charging device, said charging device transferring a charge pattern to said photoreceptor belt, said dispensing apparatus placing said toner on said photoreceptor belt based on said charge pattern, said photoreceptor belt transferring said toner to said print media; and

a belt support device operatively connected to said processor,

said photoreceptor belt being mounted on said belt support device,

said belt support device controlling a rotational speed of said photoreceptor belt and a belt tension of said photoreceptor belt,

said belt support device rotating said photoreceptor belt at a first speed and maintaining said belt tension at a first tension when said photoreceptor belt is transferring said toner to said print media,

said processor placing said printer apparatus in a reduced activity mode based on a lack of printing requests being received for an inactivity time period,

said belt support device rotating said photoreceptor belt at a second speed, less than said first speed, when said printer apparatus enters said reduced activity mode and for a delay time period after said printer apparatus enters said reduced activity mode,

said belt support device returning said rotational speed of said photoreceptor belt to said first speed based on a new printing request being received during said delay time period, and

said belt support device stopping rotation of said photoreceptor belt and reducing said belt tension to a second tension, less than said first tension, based on said delay time period expiring without receiving said new printing request.

7. The printer apparatus according to claim **6**, said processor tracking a pattern of delay between successive print requests, and

said processor adjusting said delay time period to reduce a frequency of changing said belt tension based on said pattern of delay between successive print requests.

8. The printer apparatus according to claim **6**, said belt support device returning said rotational speed of said photoreceptor belt to said first speed and returning said belt tension to said first tension based on said new printing request being received after said delay time period has expired.

9. The printer apparatus according to claim **6**, said second tension less being than 50% of said first tension.

10. The printer apparatus according to claim **6**, said second speed being less than 10% of said first speed.

11. A method comprising:

transporting print media within a printer apparatus using a media path within said printer apparatus;

placing marking material on a belt within said printer apparatus using a dispensing apparatus within said printer apparatus, said dispensing apparatus maintaining said marking material;

transferring said marking material from said belt to said print media;

supporting said belt using a belt support device within said printer apparatus;

controlling a rotational speed of said belt and a belt tension of said belt using said belt support device;

rotating said belt at a first speed and maintaining said belt tension at a first tension when said belt is transferring said marking material to said print media, using said belt support device;

placing said printer apparatus in a reduced activity mode based on a lack of printing requests being received for an inactivity time period, using a processor within said printer apparatus;

rotating said belt at a second speed, less than said first speed, when said printer apparatus enters said reduced activity mode and for a delay time period after said printer apparatus enters said reduced activity mode, using said belt support device;

returning said rotational speed of said belt to said first speed based on a new printing request being received during said delay time period, using said belt support device; and

stopping rotation of said belt and reducing said belt tension to a second tension, less than said first tension, based on said delay time period expiring without receiving said new printing request, using said belt support device.

12. The method according to claim **11**, further comprising:

tracking a pattern of delay between successive print requests, using said processor; and

adjusting said delay time period to reduce a frequency of changing said belt tension based on said pattern of delay between successive print requests, using said processor.

13. The method according to claim **11**, further comprising returning said rotational speed of said belt to said first speed and returning said belt tension to said first tension based on said new printing request being received after said delay time period has expired, using said belt support device.

14. The method according to claim **11**, said second tension being less than 50% of said first tension.

15. The method according to claim **11**, said second speed being less than 10% of said first speed.

16. A non-transitory computer storage medium readable by a processor and storing instructions, said processor reading and executing said instructions to perform a method comprising:

transporting print media within a printer apparatus using a media path within said printer apparatus;

placing marking material on a belt within said printer apparatus using a dispensing apparatus within said printer apparatus, said dispensing apparatus maintaining said marking material;

transferring said marking material from said belt to said print media;

supporting said belt using a belt support device within said printer apparatus;

controlling a rotational speed of said belt and a belt tension of said belt using said belt support device;

rotating said belt at a first speed and maintaining said belt tension at a first tension when said belt is transferring said marking material to said print media, using said belt support device;

placing said printer apparatus in a reduced activity mode based on a lack of printing requests being received for an inactivity time period, using said processor within said printer apparatus;

rotating said belt at a second speed, less than said first speed, when said printer apparatus enters said reduced activity mode and for a delay time period after said printer apparatus enters said reduced activity mode, using said belt support device;

returning said rotational speed of said belt to said first speed based on a new printing request being received during said delay time period, using said belt support device; and

stopping rotation of said belt and reducing said belt tension to a second tension, less than said first tension, based on said delay time period expiring without receiving said new printing request, using said belt support device.

17. The non-transitory computer storage medium according to claim **16**, said method further comprising: tracking a pattern of delay between successive print requests, using said processor; and

adjusting said delay time period to reduce a frequency of changing said belt tension based on said pattern of delay between successive print requests, using said processor.

18. The non-transitory computer storage medium according to claim **16**, said method further comprising returning said rotational speed of said belt to said first speed and returning said belt tension to said first tension based on said new printing request being received after said delay time period has expired, using said belt support device.

19. The non-transitory computer storage medium according to claim **16**, said second tension being less than 50% of said first tension.

20. The non-transitory computer storage medium according to claim **16**, said second speed being less than 10% of said first speed.

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